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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/056,103 | 01/23/2002 | Lydia L. Sohn | PRINP002 | 9457 |
| 20350 | 7590 | 04/27/2005 | EXAMINER | |
| TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834 | | | DOLE, TIMOTHY J | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2858 | |

DATE MAILED: 04/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/056,103

Applicant(s)

SOHN ET AL.

Examiner

Timothy J. Dole

Art Unit

2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37, 39 and 40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 8, 2004 has been entered.

Election/Restrictions

2. Claim 38 remains withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected method of making, there being no allowable generic or linking claim. Election was made **without** traverse in paper number 7.

Claim Objections

3. Claim 40 is objected to because of the following informalities: Claim 40 recites the limitation "the elastomeric layer" on line 2, which lacks antecedent basis. For the purposes of examination it is assumed that the limitation should read "the elastomeric material". Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1-8, 10-17, 19, 21-26, 28-32, 34, 36, 37, 39 and 40 are rejected under 35

U.S.C. 102(b) as being anticipated by Fischer.

Referring to claims 1, 3, 4, 8, 11, 13, 14, 22, 24, 25, 29, 32, 39 and 40, Fischer discloses a device and method for sensing and characterizing particles by the Coulter principle, said apparatus comprising: a conduit (fig. 1 (12)) formed at least in part by an elastomeric material (column 8, lines 6-14) and through which a liquid suspension of particles (fig. 1 (26)) to be sensed and characterized can be made to pass, wherein said conduit has an effective electrical impedance which is changed with the passage of each particle therethrough (column 3, lines 61-67) and wherein the conduit has a cross-sectional area of less than about $1\text{ }\mu\text{m}^2$ (column 7, lines 16-21) and a length of less than about $10\text{ }\mu\text{m}$ (column 7, lines 16-21); a liquid handling-system for causing said liquid suspension of particles to pass through said conduit (column 7, lines 1-9); and a measurement system for sensing the change of electrical impedance in said conduit (column 7, lines 9-14).

Referring to claims 2 and 12, Fischer discloses the device as claimed wherein said liquid handling-system comprises two reservoirs (fig. 1 (16) and (18)) linked by said conduit (fig. 1).

Referring to claims 5, 15, 26 and 31, Fischer discloses the device and method as claimed, further comprising a microfluidics or nanofluidics system for delivering the liquid suspension of particles to the liquid handling system (column 8, lines 37-41).

Referring to claims 6, 7, 16 and 17, Fischer discloses the device as claimed wherein the surface of the conduit and reservoirs has been functionalized to reduce or

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enhance adsorption of the particles to said surface (column 7, lines 1-5 and column 8, lines 6-14).

Referring to claims 10, 21 and 36, Fischer discloses the device and method as claimed wherein the measurement system comprises a four-point electrode system (fig. 1 and column 10, lines 13-66).

Referring to claims 19 and 34, Fischer discloses the device and method as claimed wherein the device is substantially transparent (column 8, lines 6-14).

Referring to claims 23 and 30, Fischer discloses the method as claimed wherein the particle's residence time in the conduit is also measured (column 11, lines 17-24).

Referring to claims 28 and 37, Fischer discloses the method as claimed wherein the sensing of the approach of particles to, the presence and characteristics of particles passing through, or the departure of particles from, said conduit, initiates additional measurements or actions on said particles (column 11, lines 17-24).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 9, 18, 27 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer in view of Bachenheimer et al.

Referring to claims 9, 18, 27 and 33, Fischer discloses the device and method as claimed except wherein the elastomeric material comprises polyisoprene, polybutadiene,

polychloroprene, polyisobutylene, poly(styrene-butadiene-styrene), polyurethane, poly(dimethylsiloxane) or silicone.

Bachenheimer et al. discloses a particle analysis system and method wherein a conduit is formed at least in part by an elastomeric material comprising polyisoprene, polybutadiene, polychloroprene, polyisobutylene, poly(styrene-butadiene-styrene), polyurethane, poly(dimethylsiloxane) or silicone (column 4, lines 29-38).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the elastomeric material of Bachenheimer et al. into the device and method of Fischer for the purpose of providing a material that will not damage the particles being studied (column 4, lines 29-32).

8. Claims 20 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer in view of Metha.

Referring to claims 20 and 35, Fischer discloses the device and method as claimed except wherein the device further comprises an optical detection system.

Metha discloses an apparatus for analyzing particles comprising an optical detection system (column 9, lines 18-20).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to incorporate the optical detection system of Metha into the device and method of Fischer for the purpose of visually determining sample flow whereby adding redundancy to the device.

Response to Arguments

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9. Applicant's arguments with respect to claims 1-5 and 8-37 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

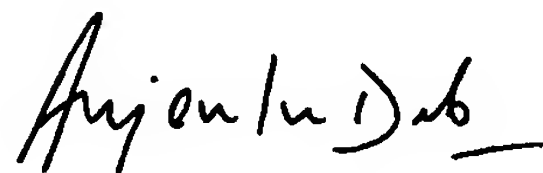
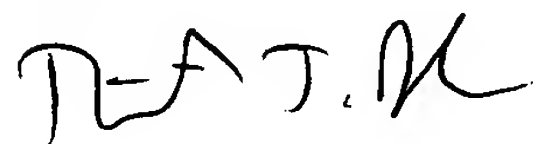
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Dole whose telephone number is (571) 272-2229.

The examiner can normally be reached on Mon. thru Fri. from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJD



**ANJAN DEB
PRIMARY EXAMINER**